

# Tuned Perturbation Cone Feed for Reflector Antenna

## Abstract

A sub-reflector for a dish reflector antenna with a waveguide supported sub-reflector. The sub-reflector formed from a dielectric block, concentric about a longitudinal axis. The dielectric block having a first diameter waveguide junction portion adapted for coupling to an end of the waveguide and a sub-reflector surface coated with an RF reflective material having a periphery with a second diameter larger than the first diameter. A leading cone surface extends from the waveguide junction portion to the second diameter at an angle. The sub-reflector surface and the leading cone surface having a plurality of non-periodic perturbations concentric about the longitudinal axis.